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IS 4766 (1982): Thiram Water Dispersible Powders [FAD 1:  
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Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





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**IS : 4766 - 1982**

(Reaffirmed 2004)

*Indian Standard*  
**SPECIFICATION FOR  
THIRAM WATER DISPERSIBLE POWDERS**  
*(First Revision)*

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**INDIAN STANDARDS INSTITUTION**  
MANAK BHAVAN, 9 BAHAJUR SHAH ZAFAR MARG  
NEW DELHI 110002

Gr. 2

March 1983

*Indian Standard*

**SPECIFICATION FOR**  
**THIRAM WATER DISPERSIBLE POWDERS**

*( First Revision )*

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AMENDMENT NO. 1 JUNE 1988

TO

IS:4766-1982 SPECIFICATION FOR THIRAM WATER  
DISPERSIBLE POWDERS

*(First Revision)*

(Page 4, Table 1) - Add the following Note at  
the end of the table:

'Note - The material shall not be subjected to  
accelerated storage treatment if it has crossed half  
of its shelf life as ascertained from its date of  
manufacture and date of expiry declared on the  
container.'

(AFCDC 6)

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Reprography Unit, BIS, New Delhi, India

**AMENDMENT NO. 2 MAY 1994**  
**TO**  
**IS 4766 : 1982 SPECIFICATION FOR THIRAM WATER**  
**DISPERSIBLE POWDER**

*(First Revision)*

*(Page 4, Table 1)*

- a) SI No. (ii), col 2 }      Delete the words after accelerated storage  
b) SI No. (iii), col 2 }

*(Page 6, clause 4.1) — Substitute the following for the existing*

When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627—1983 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627—1983. However, the criteria for conformity of the material when tested, shall be the limits of tolerances as applicable over the declared nominal value and given under clause 2.3.1 of the standard.

*(FAD 1)*

Reprography Unit BIS New Delhi India

**AMENDMENT NO. 3 MARCH 2002  
TO  
IS 4766 : 1982 SPECIFICATION FOR THIRAM WATER  
DISPERSIBLE POWDERS**

*( First Revision )*

*( Cover page, pages 1 and 3, Title ) -- Substitute 'Thiram WS' for 'Thiram Water Dispersible Powders' from the title and wherever it occurs in the text of the standard*

*{ Page 4 Table 1 Sl No. (iii) } -- Delete all the columns*

*( FAD 1 )*

*Reprography Unit, BIS, New Delhi, India*

*Indian Standard*  
**SPECIFICATION FOR  
THIRAM WATER DISPERSIBLE POWDERS**  
**( First Revision )**

**0. FOREWORD**

**0.1** This Indian Standard ( First Revision ) was adopted by the Indian Standards Institution on 10 November 1982, after the draft finalized by the Pest Control Sectional Committee had been approved by the Agricultural and Food Products Division Council and the Chemical Division Council.

**0.2** Thiram water dispersible powders are largely used for the control of diseases of agricultural and horticultural crops.

**0.3** Thiram water dispersible powders are generally formulated to contain 75 percent ( m/m ) of thiram.

**0.4** This standard was first published in 1968. Subsequently, one amendment was issued. In this revision, besides other modifications, the packing and marking requirements have been modified. The opportunity has also been taken to refer IS : 4320-1982\* and IS : 6940-1982† for various test methods for the sake of uniformity.

**0.5** In the preparation of this standard due consideration has been given to the provisions of the *Insecticides Act, 1968* and the Rule framed thereunder. However, this standard is subject to the restrictions imposed under these rules, wherever applicable.

**0.6** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960‡. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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\*Specification for thiram technical (*first revision* ).

†Methods of test for pesticides and their formulations (*first revision* ).

‡Rules for rounding off numerical values (*revised* ).

## 1. SCOPE

**1.1** This standard prescribes requirements and methods of sampling and tests for thiram water dispersible powders.

## 2. REQUIREMENTS

**2.1 Description** — The material shall be in the form of a homogeneous powder, white to off white in colour, and shall wet readily on mixing with water providing a suspension suitable for use as a spray.

**2.2** Thiram, technical employed in the formulation of the material shall conform to IS : 4320-1982\*.

**2.3** The material shall also comply with the requirements given in Table I.

**TABLE I REQUIREMENTS FOR THIRAM WATER DISPERSIBLE POWDERS**

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO	
			Appendix of IS : 4320-1982*	Cl No. of IS : 6940-1982†
(1)	(2)	(3)	(4)	(5)
i)	Thiram content, percent by mass	Nominal value as declared on the container ( see 2.3.1 )	A	—
ii)	Sieving requirement, material passing through 53 micron IS Sieve [ see IS : 450 ( Part I )-1978‡ ] after accelerated storage, percent by mass, Min ( see Note )	98	—	11.1
iii)	Suspensibility after accelerated storage, percent by mass, Min	50	—	11.2
iv)	Wettability	Within 2 minutes	—	11.4

**NOTE** — BS Test Sieve 300, ASTM Sieve 270 and Tyler Sieve 270 have their apertures within the limits specified for 53- $\mu\text{m}$  IS Sieve and may, therefore, be used in place of this IS Sieve.

\*Specification for thiram, technical (*first revision*).

†Methods of test for pesticides and their formulations (*first revision*).

‡Specification for test sieves : Part I Wire cloth test sieves (*second revision*).

\*Specification for thiram, technical (*first revision*).

**2.3.1 Thiram Content** — When determined by the method prescribed in Appendix A of IS : 4320-1982\*, the observed thiram content, percent (*m/m*), shall not differ from the declared nominal value by more than the percent tolerance limits indicated below:

<i>Nominal Value, Percent</i>	<i>Tolerance Limits, Percent</i>
Up to 9	+ 10 - 5 } ± 5 } of the nominal value
Above 9 and below 50	± 5 } + 5 - 3 }
50 and above	

**2.3.1.1** The actual value of the thiram content in the formulation shall be calculated to the third decimal place and then rounded off to second decimal place before applying the tolerances given in 2.3.1.

**2.3.1.2** The average content of all samples shall not be less than the declared nominal content.

### 3. PACKING AND MARKING

**3.1 Packing** — The material shall be packed in accordance with the requirements given in IS : 8190 ( Part I )-1980†.

**3.2 Marking** — The containers shall bear legibly and indelibly the following information and any other information as is necessary under the *Insecticides Act* and Rules:

- a) Name of the material;
- b) Name of the manufacturer;
- c) Date of manufacture;
- d) Batch number;
- e) Net mass of the contents;
- f) Nominal thiram content, percent (*m/m*); and
- g) A cautionary notice worded as in the *Insecticides Act* and Rules.

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\*Specification for thiram, technical (*first revision*).

†Requirements for packing of pesticides : Part I Solid pesticides (*first revision*).

**3.2.1** The containers may also be marked with the ISI Certification Mark.

**NOTE** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

**4. SAMPLING**

**4.1** Representative samples of the material shall be drawn as prescribed in 'Indian Standard methods for sampling of pesticides and their formulations' (*under preparation*).

**NOTE** — Till such time the above standard is published, the sample shall be drawn as agreed to between the parties concerned.

**5. TESTS**

**5.1** Tests shall be carried out by the methods referred to in col 4 and 5 of Table 1.

**5.2 Quality of Reagents** — Unless specified otherwise, pure chemicals and distilled water (*see IS : 1070-1977\**) shall be employed in tests.

**NOTE** — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

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\*Specification for water for general laboratory use (*second revision*).

## INTERNATIONAL SYSTEM OF UNITS ( SI UNITS )

### Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

### Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

### Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s <sup>2</sup>
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m
Frequency	hertz	Hz	1 Hz = 1 c/s (s <sup>-1</sup> )
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m <sup>2</sup>

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